

Please replace the Abstract with the following:

Film thickness measurement systems and methods are provided that utilize a signal generator having a ~~Gunnplexer~~ Gunnplexer design and a resonant frequency detector to correlate the shift in resonant frequency experienced by a resonant cavity having one face abutting a test object. The shift in resonant frequency is determinative of a linear or near linear correlation between film thickness and the resonant frequency shift.